

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Laser system having a repetition rate greater than 50 kHz according to the principle of the regenerative amplifier, comprising at least

- an amplifying laser medium,
- a laser resonator having at least one resonator mirror and at least one modulator, and
- a pump source, ~~in particular a laser diode source~~, for pumping the laser medium,

wherein the laser resonator has a pulse stretcher as a specially designed component having a structure- and/or material-related dispersive effect, the pulse stretcher having a minimum 3rd order dispersion with a maximum 2nd order dispersion.

2. (Currently Amended) Laser system according to Claim 1, wherein the pulse stretcher has a block of highly dispersive material, ~~in particular comprising SF57 glass, SF10 glass or BK7 glass.~~

3. (Currently Amended) Laser system according to Claim 2, wherein multiple reflection takes place within the block, ~~in particular~~ by reflection at interfaces.

4. (Currently Amended) Laser system according to ~~claim 1~~ Claim 1, wherein the pulse stretcher has a Gires-Tournois interferometer or a dispersive layer structure, ~~preferably as a folding mirror structure.~~

5. (Currently Amended) Laser system according to Claim 4, wherein the pulse stretcher has at least two reflecting surfaces, the surfaces being arranged in such a way that the surfaces are oriented

- relative to one another and

- at an opening angle, ~~in particular adjustable opening angle,~~

and the laser beam is reflected at least twice at at least one of the surfaces.

6. (Currently Amended) Laser system according to ~~claim 1~~Claim 1, wherein the laser medium has an inversion life time greater than 1 ms ~~and is in particular Yb:glass or Yb:crystal.~~

7. (Currently Amended) Laser system according to ~~claim 1~~Claim 1, ~~characterized by~~wherein a femtosecond oscillator for inputting seed pulses, the femtosecond oscillator being formed and arranged in such a way that the seed pulses are femtosecond pulses or picosecond pulses on input into the laser resonator.

8. (Currently Amended) Laser system according to ~~claim 1~~Claim 1, ~~characterized by~~wherein an electro-optical switching element as modulator.

9. (Currently Amended) Laser system according to ~~claim 1~~Claim 1, ~~characterized by~~wherein a pulse compressor is outside the laser resonator, in particular according to the Treacy design, resonator.

10. (Currently Amended) Laser system according to Claim 9, wherein the pulse compressor has a dispersive grating having less than 1700 lines/mm, ~~preferably less than 1200 lines/mm.~~

11. (New) Laser system according to Claim 1, wherein the pump source is a laser diode.

12. (New) Laser system according to Claim 2, wherein the highly dispersive material is at least one of a SF57 glass, SF10 glass or BK7 glass.

13. (New) Laser system according to Claim 5, wherein the opening angle is adjustable.

14. (New) Laser system according to Claim 6, wherein the laser medium is a Yb:glass or a Yb:crystal.

15. (New) Laser system according to Claim 9, wherein the pulse compressor has a dispersive grating having less than 1200 lines/mm.
16. (New) Laser system according to Claim 4, wherein the dispersive layer structure is used as a folding mirror.
17. (New) Laser system according to claim 9, wherein the relationship of the pulse compressor outside the laser resonator is according to the Treacy design.